

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please CANCEL claims 19-20, AMEND claims 17, 21, and 28-31 and ADD claim 32 in accordance with the following:

Claims 1-16 (cancelled).

17. (Currently Amended) A method for synchronizing a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising:

receiving at the base station of a radio cell, mobile station signals of the radio cell and adjacent radio cells;

determining, from the mobile station signals received at the base station, a first synchronizing value for at least one of time synchronizing and frequency synchronizing to which the base station synchronizes itself;

receiving at the mobile station of the radio cell, base station signals of the radio cell and adjacent radio cells; and

determining, from the base station signals received at the mobile station, a second synchronizing value for at least one of time synchronizing and frequency synchronizing ~~to which the mobile station synchronizes itself;~~

employing timeslots of commonly assigned carrier frequencies as radio transmission resources, wherein at least two adjacent base stations simultaneously and jointly employ a timeslot of a carrier frequency for radio provisioning a respectively assigned mobile station; and selecting the timeslot from the commonly assigned radio transmission resources taking account of an interference situation in the timeslot.

18. (Previously Presented) The method according to claim 17, wherein adjacent base stations employ radio transmission resources from a stock commonly assigned to the base stations for data transmission.

Claims 19-20 (Cancelled).

21. (Currently Amended) The method according to claim 17 ~~20~~, further comprising synchronizing by at least one of the base station and mobile station by adjusting carrier frequencies and timeslot-transmitting instants.

22. (Previously Presented) The method according to one claim 21, further comprising reducing co-channel interference on at least one of the base station and mobile station by interference suppression methods.

23. (Previously Presented) The method according to claim 22, further comprising assigning radio transmission resources on the base station side to minimize co-channel interference in adjacent radio cells.

24. (Previously Presented) The method according to claim 23, wherein an orthogonal frequency division multiplexing radio transmission method is employed.

25. (Previously Presented) The method according to claim 24 wherein one of a time-division duplex and frequency-division duplex radio transmission method is employed.

26. (Previously Presented) The method according to claim 24, further comprising determining one of a time deviation through correlating and a frequency deviation by ascertaining a phase rotation of consecutive symbols following a transformation into the frequency range.

27. (Previously Presented) The method according to claim 26, wherein said synchronizing of the base station and the mobile station of the radio communication system requires no additional signaling using a higher protocol layer between the base station and assigned mobile station.

28. (Currently Amended) A base station, in a radio cell of a radio communication system divided into radio cells transmitting data by multiple access methods, for radio provisioning mobile stations assigned to the radio cell, comprising:

a receiver receiving mobile station signals of the radio cell and adjacent radio cells; and

utilizing time slots of jointly assigned carrier frequencies of an adjacent base station as radio transmission resources wherein the base station and the adjacent base station simultaneously and jointly employ a time slot of a carrier frequency for radio provisioning of a mobile station, and selecting the time slot from the commonly assigned radio transmission resources taking account of an interference situation in the time slot ; and

a processor determining from the mobile station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing to which said base station synchronizes itself.

29. (Currently Amended) A mobile station, in a radio cell of a radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising:

a receiver receiving base station signals of the radio cell and adjacent radio cells; and utilizing time slots of jointly assigned carrier frequencies of an adjacent base station as radio transmission resources wherein the base station and the adjacent base station simultaneously and jointly employ a time slot of a carrier frequency for radio provisioning of the mobile station, and selecting the time slot from the commonly assigned radio transmission resources taking account of an interference situation in the time slot; and

a processor determining from the base station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing to which said mobile station synchronizes itself.

30. (Currently Amended) A radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising:

a time slot unit assigned to a corresponding radio cell, assigning time slots of jointly assigned carrier frequencies of an adjacent base station as radio transmission resources wherein the base station and the adjacent base station simultaneously and jointly employ a time slot of a carrier frequency for radio provisioning of a mobile station, and selecting the time slot from the commonly assigned radio transmission resources taking account of an interference situation in the time slot ; and

at least one base station, each assigned to a corresponding radio cell, receiving mobile station signals of the corresponding radio cell and adjacent radio cells and determining, from the

mobile station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing of the at least one base station.

31. (Currently Amended) A radio communication system divided into radio cells transmitting data by multiple access methods, each radio cell having a base station for radio provisioning mobile stations assigned to the radio cell, comprising:

a time slot unit assigned to a corresponding radio cell, assigning time slots of jointly assigned carrier frequencies of an adjacent base station as radio transmission resources wherein the base station and the adjacent base station simultaneously and jointly employ a time slot of a carrier frequency for radio provisioning of a mobile station, and selecting the time slot from the commonly assigned radio transmission resources taking account of an interference situation in the time slot; and

at least one mobile station, each in a corresponding radio cell, receiving base station signals of the corresponding radio cell and adjacent radio cells and determining, from the base station signals, a synchronizing value for at least one of time synchronizing and frequency synchronizing of the at least one mobile station.

32. (New) A method for synchronizing a radio communication system divided into radio cells transmitting data using a multiple access method, comprising:

assigning each radio cell a respective base station for radio coverage of a plurality of mobile stations assigned to the radio cell;

utilizing time slots of jointly assigned carrier frequencies of adjacent base stations as radio transmission resources wherein two adjacent base stations simultaneously and jointly use a time slot of a carrier frequency for radio coverage of a mobile station;

receiving at the base station, signals from the adjacent base stations, and signals from the plurality of mobile stations in adjacent radio cells; and

determining from the signals from the adjacent base stations and the signals from the plurality of mobile stations in adjacent radio cells, a synchronization value for at least one of a time synchronization and a frequency synchronization.